

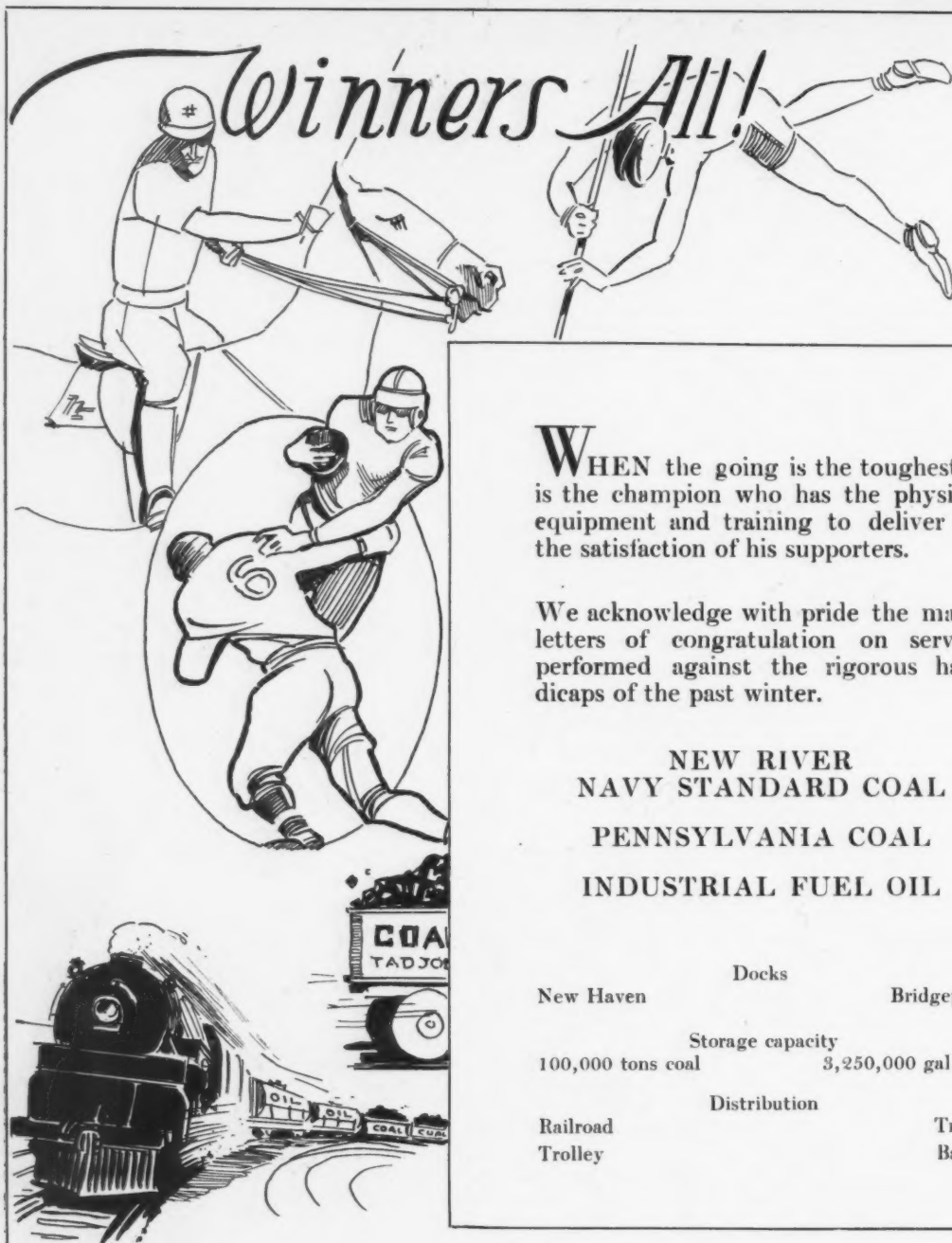


Springs Issue

THIS MONTH'S Cover Plate is a dramatic presentation of products of the spring industry—coiled flat springs—the type to be found hiding behind upholstery in automobile doors, doing a very necessary and efficient job of keeping door latches closed. They have also many other applications.

CONNECTICUT INDUSTRY

APRIL
1934



WHEN the going is the toughest it is the champion who has the physical equipment and training to deliver to the satisfaction of his supporters.

We acknowledge with pride the many letters of congratulation on service performed against the rigorous handicaps of the past winter.

NEW RIVER
NAVY STANDARD COAL
PENNSYLVANIA COAL
INDUSTRIAL FUEL OIL

New Haven	Docks	Bridgeport
	Storage capacity	
100,000 tons coal		3,250,000 gal. oil
	Distribution	
Railroad		Truck
Trolley		Barge

T. A. D. JONES & CO., Inc.

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L. M. BINGHAM, Editor

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PUNCH DRUNK

Months ago I sat with a group of Connecticut employers which included two or three bankers, a number of industrialists, some railroad executives, farmers and retail merchants. Among the individuals in the group was the vice-president of the Association. Sitting next to him was one of the leading bankers of the state. We had just received word that the National Industrial Recovery Act had been signed by the President. The banker slapped our vice-president on the back and with a great deal of glee said "Well, John, they are going to line up you manufacturers properly now." The sage replied, "Don't worry, before many weeks all of you, whether you are bankers, farmers, manufacturers, or what not, will be operating under the provisions of the act."

Since that time there have been numerous executive orders and Congress has passed numerous pieces of legislation. The President's Reemployment Agreement and the executive orders which arose out of it are well known examples of the departure from the original intent of the Act. Now comes the Wagner "labor disputes" bill, the Connery 30 hour bill, the various loan laws, the laws regulating specifically the very production of the farmer, laws which a year ago we would not have believed could be enacted by the representatives of the people. Section 7(a) of the National Industrial Recovery Act was strenuously opposed by employers. There was much talk of the inclusion of the "merit" clause in codes in order that Section 7(a) might be clarified. The administration put its foot down on all of that talk. Employers generally have not bowed, but are having themselves bowed to the will of organized minorities.

In opposition to the Wagner "labor disputes" bill many employer organizations are now in the position of defending Section 7(a) which they previously opposed bitterly. There is no longer a question of accepting this or that proposal "because we will get something worse if we do not accept it", but it is a question of where acceptance is going to stop. The reciprocal tariff idea contravenes Article I of Section 8 of the Constitution of the United States. Proposals similar to the Connery bill have previously been declared unconstitutional. The administration-endorsed unemployment insurance bill is well on the way to passage. Where is it going to stop? At what point are the proponents of legislation of this sort going to come to the realization that manufacturing industry is the

backbone of this country and that if it is broken the back of the country is broken?

I was recently discussing with a well informed friend the idea of accepting legislation in the fear that more drastic proposals might come. He reminded me of a theoretical instance where one man asks another for a dollar bill, threatening, if he does not receive the dollar to ask for five. The dollar bill is given, but he still asks for the five and makes the additional threat that if five is not forthcoming,

he will ask for ten. The five is given and the process is repeated until the panhandler has received all and the giver has nothing. Manufacturing industry today* is in much the same position as the giver. In a recent well-considered speech on the floor of the House opposing the reciprocal tariff bill, Congressman Goss aptly described the industrial situation when he said, in effect, that its passage will mean that industry will be holding the tin cup.

E. Kent Hubbard.

* * *

IN WASHINGTON LAST MONTH

The Pot Boils. Three mouths water for food. One of those "Congressional kitchen" stews with "58 different varieties" of viands and the whole alphabet of vitamins, is being stewed to both whet and satisfy the appetites of those promising youths—Recovery and Reform; to forever dry up the digestive juices of old man Depression. The chefs are puzzled because the two boys don't thrive on the same food which continues to keep the old man fairly spry and hopeful, even after nine months' feeding on "alphabet soup". Though temperamental Recovery has gained strength and stature for several months, he has been a frequent sufferer from nervous indigestion because of a lack of that old-fashioned seasoning, common sense. Our experts and lay dietitians have prescribed for a him a diet containing more of this favorite seasoning, fewer items with vitamin D (oubt), and more that release an abundance of sinew-building vitamin C (onfidence). For the more aggressive lad, Reform, they prescribe generous portions of vitamins which will retard his growth until Recovery becomes fully developed. When that stage is reached, Recovery should be able to hold his own with his competitor, especially since the death of the old man. The pot boils. Samples of the March stew are dished out to you below. What to do if you don't like the aroma or the taste, well, you should know.

* * *

Stock Exchange Regulation Bill. President recommends bill with plenty of "teeth". A few will be drawn, but enough will remain to bite most of the profits out of the brokerage business and to prevent further wild speculative booms in Wall Street. Passage expected in April or early May, with margin requirements reduced from 60% to 40%. (Vitamin D).

* * *

New Tax Bill. Capital stock and excess profits taxes, export tax on imported vegetable oil are

probable major changes from House measure. Enactment expected in April. (Vitamin D).

* * *

Securities Act Amendment. To sugar coat the bitter stock exchange bill, an amendment to soften liability features is being talked of as a certainty this session. (Vitamin C)

* * *

Tariff Reciprocity. A hamstrung bill expected to pass, permitting little effectual bargaining. Strong industry opposition will be reflected in final draft. (Vitamin D)

* * *

Wagner Labor Bill. Industry's greatest threat, clothed in dove-like garments by its sponsor, but in fact armed to the teeth with all the weapons necessary to annihilate the fruits of all U. S. industrial relations experience. Its strike-making possibilities could easily, and within thirty days after passage, destroy all good effects of the NRA, in fact the entire movement. Industry has offered its greatest show of power against this bill and must continue to do so if it hopes to stop its passage. (A strong dose of vitamin D)

* * *

Costigan Resolution. Potent with possibilities for ultimate constitutional tinkering because it seeks to force corporations to give up to the Federal Trade Commission their lists of salaries and bonuses paid. Four corporations thus far have positively refused and are willing to go to court. Should court declare against the corporations, a push for constitutional change may ensue. (Slight dose of vitamin D)

(Continued on page 26)

SPRINGS

By L. M. Bingham

Unsung servants to moderns. . . Crude ancestors sprung by ancients. . . A man named Hooke and his law. . . Inspiration in clocks. . . Domestic industry born and reared in Bristol, Connecticut. . . Mr. Dunbar and Mr. Barnes progenitors; modern machines developers. . . Spring music. . . Connecticut factors. . . Wallace Barnes. . . Dunbar Brothers. . . Humason Mfg. Company. . . F. N. Manross. . . Mattatuck Mfg. Company. . . Peck Spring. Big brothers in five states; little sisters dot the nation.

Cr-rrr-rrr-r-r-rr. Joe Suburbanite stirred uneasily on his easy rest, turned over. Seconds passed. Ding-a-ling-a-aaa-ling-aaaa-ling. It was no dream after all, he realized, when the last slow beat of the alarm hammer was silenced with his still drowsy right hand—fumbled for the thermostat on the wall. 7:15 a.m., he observed. Brrr—another one of those . . . cold mornings, he mumbled angrily, as he dove under the blankets for another fifteen minutes.

Startled, too, by the din but still befogged, Susan Suburbanite saw the clock, lazed on her elbow and came feebly to rest in that same warm spot. It was 7:18 a.m. "Seven minutes more," she mused—"glad I squeezed the orange juice last night—toast won't take long with the new automatic Joe gave me—coffee is in the percolator ready to turn the switch."

7:50 a.m. found Joe finished with his exerciser, shower and in the midst of shaving when he heard the click of the toaster—coffee boiling. He liked his hot, so did Susan. They ate hurriedly. At 8:15 a.m. Joe's car was warming in the garage; Susie's new Hoover hungrily breathing its morning meal; her automatic dish washer making short work of the dishes. Joe turned the latch, threw open the entrance door, rang for the elevator, and three minutes later was seated in his easy swivel chair reading a new NRA ruling that he was sure would give him nervous indigestion before lunch. He clipped

the item to a loose leaf, made it page 49 of his 3-ring NRA scrapbook, pressed the button, lifted the dictograph receiver and called for a stenographer.

She couldn't take his dictation until ten or after—rush job she was typing for the vice-president.



Colonel E. L. Dunbar, first U. S. springmaker, who started with clock springs in Bristol, Conn., in 1847.

Joe blew up. How was he to prepare a speech for delivery that night, meet three delegations, dictate thirty letters—all without a stenographer? The most comforting thing about him was his new spring belt buckle he bought the day before. Usually his heavy breakfast made

him slightly uncomfortable about his fortyish waist line.

"Sensible purchase," he congratulated, as he lay back in his swivel chair, wondering how he would meet next month's sales quota, comply with NRA price rulings.

Without a single thought of gratitude, Mr. and Mrs. Suburbanite have accepted the tireless, silent, but essential services to modern life of 36 different types of springs since they were first aroused at 7:15 a.m. by the unwinding of a tightly coiled spring propelling a hammer against the alarm clock gong. They would have spent a hard restless night without the "give and take" of their coiled spring mattress and curled resilience of its supporting bed springs. Springs, too, had something to do with the cream in their coffee, the milk on their cereal—they operated the pulsator on the milking machine which drew forth the product from their dairyman's 80 cows the night before.

Recount. Springs in the following items served the Suburbanites until 10 a.m. 1. alarm clock; 2. thermostat; 3. oil burner mechanism; 4. curtain; 5. toaster; 6. percolator; 7. razor stopper; 8. faucet; 9. exerciser; 10. electric stove hinges; 11. egg boiler; 12. shoe trees; 13. belt buckle; 14. automatic dish washing machine; 15. vacuum cleaner; 16. key ring; 17. padlock on garage; 18. starter in car; 19. valves; 20. clutch; 21. distributor; 22. horn; 23. brake; 24. brake handle; 25.

brush; 26. door latch; 27. door check; 28. elevator bell; 29. elevator gate safety lock; 30. elevator switch; 31. desk lock; 32. telephone; 33. dictograph; 34. swivel chair; 35. paper clip; 36. loose leaf binder.

Other springs that now silently and efficiently perform what would have been called miracles a century ago, speed and ease the efforts of millions of moderns throughout the day. Kind reader, suppose we have a drink, then take an imaginary but true to life sales trip in a taxi with salesman John Ryan and salesmanager Peter Hahn of "Heinz 57 Varieties," calling on the trade in Manhattan today. Hear that spring click after it released your drinking cup!

Curtain: (*Hahn and Ryan talking in front of Grand Central.*)

Hahn: "Put these new prices in your brief case, John, they're hot off the code authority typewriter yesterday. They're up 10, you know." (*Typewriter spring.*)

Ryan: "Swell! Glad to get 'em. Now I'll have the laugh on those smart aleck blokes who think I've been handing them a line of hot tomallies on gettin' under the wire with their orders before prices hit the Chrysler tower." (*Click, went the spring snap on Ryan's brief case.*)

Hahn: "Let's grab that taxi. Taxi!"

Ryan: "W. 69th, no sight seein' either! Have a cigar?" (*K-lum and the taxi door closed and was held firmly by a snail-like spring curled up behind the leather upholstery in the door; the taximeter spring pushed up 15 cents.*)

Hahn: "Have a Lucky?"

Ryan: "I'm getting too thin, now. Down to 210 on my bathroom scale (*scale spring*) this morning—I'm stickin' to Camels." (*Snap! snap! spoke the springs in closing cigarette cases.*)

Hahn: "Hear that siren? Some gang out for a little limberin' up exercise." (*A spring in the police alarm box on the corner operated the siren.*)

Ryan: "Since when have I been so deaf?" (*Bang, bang, bang, heard from an alley, then a man runs out and down the street with an officer about a hundred feet behind, firing a fusillade at the fleeing thug. The man stumbles and hits his head on pavement—lies still.*)

Hahn: "Pull up driver—look out!" (*Crash! taxi hits telephone pole near officer who is handcuffing thug now regaining senses—bad gash under chin.*)

Ryan: "Pheww! I like thrills—but where the did you take hack lessons—down in Texas?"

Driver: "That dame in the red Pierce forced me." (*Hahn and Ryan step out to look at car, then turn and walk a few steps toward officer handcuffing thug.*)

Hahn (*to driver*): "Strong bumper you got there—saved the car—maybe our necks too. It's pretty well shot now."

Driver: "It's oo-k-a-y—needs a little straightening. That baby's taken it on the nose six times before—always comes back again, good as ever." (*Bumper, a heavy duty spring.*)

Officer (*talking to Ryan and Hahn*): "T'ot I got 'em sure with me 2nd and 3rd shots but now I gotta ring for the wagon to haul his worthless carcass in. Ah! (*Discovers two holes in prisoner's coat—rips it off to find steel vest under coat with two big dents in back*) an' I knew I niver missed 'im. See them dents in the cuss's steel vest? (*Vest made from three thickness of tempered spring steel .0015 thick, withstood the bullets from the .45 automatic*) I'll show this to me captain fer proof that I'm as good as ivver I was when I won the champeenship fer the precinct ten years ago." (*Turning to thug*) "You'll not be fer gettin' away from me now. Ya no good with the handcuffs on ya." (*Drags prisoner over to police box, calls station.*)

Officer: "Hello, O'Riley talkin'.—So it's on the way. O-kay. Got one of Muggsy's bad actors in the cuffs. Shot 'im twice but 'is vest saved 'is skin."

Ryan: (*Looking at his watch, run and regulated by springs*) "Just got time to make it to Pete Heinan's for our 11 o'clock appointment." (*Speaks to driver*) "Step on it."

If we had the time to follow these drummers all day we should discover that the "pickle and soup peddlers" saw and were aided by over forty spring controlled gadgets and mechanisms. Likewise by close examination we should learn that some important spring application is to be found in the majority of all mechanical inventions which have changed our entire mode of life since 1890.

What and How

What are these retiring and obscure items, called springs, upon whose unfailing energy our speed records and practically our entire modern existence depends? And how do they get that way? Webster's Collegiate dictionary describes one as "an elastic body or device that recovers its original

shape when released after being distorted." A fat man running for the 8:15, overlooks a high curb and as a consequence vibrates for a few seconds on his stomach. Since he easily recovers his original shape when his 300 pounds of avoirdupois is shifted to a standing position, his abdominal muscles have performed the functions of a true spring, i.e., to absorb energy and then later to give it out.

This energy absorbing "take and give" gadget may be formed of steel or copper alloyed with zinc, tin or nickel into many shapes and almost countless sizes to perform a given task. It's tailor made. It may be a mere flat metal stamping, hole in center and slightly cupped—a spring washer, to maintain tension against a nut. If it is flat metal coiled tightly it is known as a flat coiled spring which may actuate the mechanism of a clock, toy or phonograph. Wire coiled like a corkscrew—barrel-shaped, cone-shaped, in the form of an hour-glass, or merely straightaway, is called a helical spring. A valve spring used in an automobile or aeroplane engine is a good example of a helical used as a compression spring, and the spring on a screen door is a helical known as an extension spring. We often hear of spiral springs and motor springs. But that's merely the English language traveling in circles to say the same thing in a different way—"helical" and "flat" springs.

Springs fail like marriages when their "temper" is unsuited to the every-day strain placed upon them. Tempering therefore is the chief quality which may either make or break a spring. It is done first by annealing (heating and cooling to soften and make less brittle) and cold rolling of steel rods anywhere from five to eight times until the steel is worked down to the desired thickness. It is checked and tested by accurate scientific apparatus ready for coiling. At this point two men, veterans of spring making, step up to a pile of steel. One picks up a strip, looks it over carefully and slowly bends it until it breaks with a snap. The other listens intently. The snap of the breaking steel is music to their experienced ears for they can detect harsh notes denoting brittleness or improper temper just as easily as the expert musician detects an off note in an old familiar symphony. After the steel is coiled at the cold-roll strip mills it is tempered further by heating in instrument controlled furnaces and cooled in a circulating bath of oil. It may be tempered before, or both before and after it is coiled into the springs by high speed machines or by a combination of manual and machine operations.

Inspection and test are two other important and costly operations interjected at different points in the evolution of a spring from a steel rod to a manservant. Straight line production with occasional zig-zagging in the intermittent annealing and rolling processes is the rule in well organized spring plants. An order for springs may start motion in either the laboratory or the stock-room depending on whether or not the item can be made from stock on hand. If the material is not on hand, it usually takes as many as four weeks to run it through the many processes before it is ready for the customer. If stock strip is available it may be made up from twenty-four hours to a week after receipt of order. In every instance, with the exception of repeat orders, springs are tailor made to perform a specific task under a given load and atmospheric condition.

Start of Domestic Industry

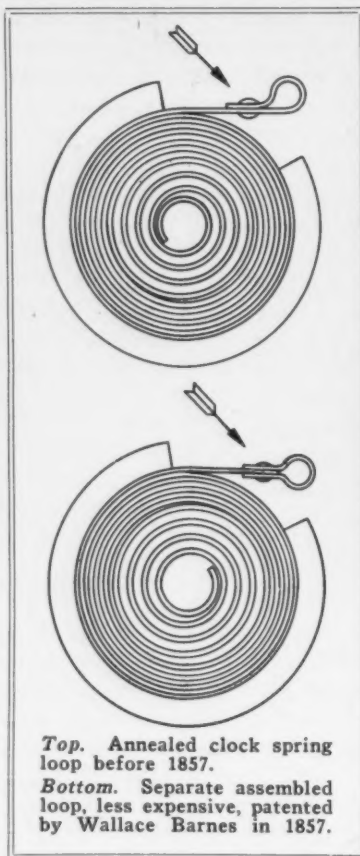
The most fertile seeds of mechanical ingenuity sailed westward from England in the 17th century to conquer the wilderness of New England; to subdue or pacify the roving Indian tribes and to establish the foundation of many noted industrial centers. Bristol, Connecticut, known in the 1740's as the New Cambridge and West Britain Ecclesiastical Societies, became the hub of the domestic clock making industry in the 18th and 19th centuries. Through discovery or acquisition of a method of tempering steel for springs Col. E. L. Dunbar, descendant of an early settler, started the manufacture of springs on Lewis Street, Bristol in 1847. His new method enabled him to supplant at lower prices the springs which, prior to his discovery, had been imported from France and England. A decade later when Dame Fashion decreed the hoop or crinoline skirt as the last word for women, Col. Dunbar was persuaded by the representative of a New York merchant to make hoops of spring steel for the skirts.

Just prior to the panic of 1857, Wallace Barnes, jovial Scotch-English descendant of Thomas Barnes (one of the four original grantees from Farmington of the first "florly acres of meddow land" in East Bristol in 1663 and of Ebenezer Barnes, second home builder in Bristol in 1728. Part of house still standing just west of the Bristol Brass Company plant) was employed as a mechanic by A. S. Platt & Company, clock and hoop makers, at \$1.25 per day. Panicky times and tight money had forced the Platt Company to pay many of its employees in hoop wire and among the recipients was Mr. Barnes.

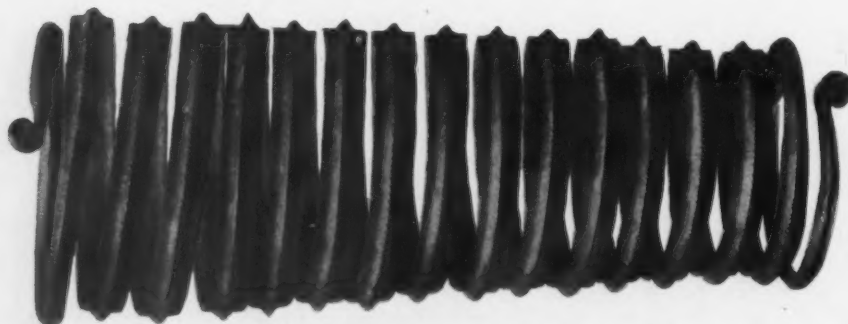




Wallace Barnes, founder of the Wallace Barnes Company in 1857. He traded his way into business. Here are the steps. Several months work for steel hoops. . . Hoops for store. . . Store for Missouri farm. . . Farm for blacksmith shop. . . Shop sold for \$1600. . . Money for clock and spring shop.



Carlyle Barnes, son of founder, saved the Company from ruin in 1893 after father's death. A born executive with a flair for expansion, he built much of the structure of the present business. Since his death in 1926 his sons, Fuller F. and Harry C. Barnes together with management outside the family have further expanded it.



A Grecian armlet, worn for defense, and fashioned in the 5th Century B. C. from bronze. It is the most perfect example of helical spring produced by the ancients and still retains its temper.



Above is a square spring produced by an ingenious mechanic at the Humason Mfg. Co. against the day when some designer makes a square hole. Preparedness—rather.



Left. Pill lock, 1810. First form of percussion lock. Springs of usual type.

Right. Percussion lock of 1830. Lock made to fit wheel-lock gun about 150 years old.



Determined to realize on his labors, he loaded the wire into his wagon and drove toward Albany, New York, in search of a man who could be induced to enter the business of making hoops into skirts. Enroute he met discouraging words from traveling jobbers, one saying: "Why, my dear man, women will never wear these things. Why, they would attract lightning, a horrible death to die."

Still undaunted, he reached Albany before his man was discovered to be the owner of a gents' furnishing store. The merchant wanted the hoops but had no money. A trade was made. Mr. Barnes had the store but didn't want to operate it. Being a natural born trader, with a technique refined by several early trading jaunts through the West, he started out next day determined to dispose of his business.

Within a few days he had swapped his store "sight unseen" for a farm in Missouri. Having no desire to clear and farm those wild western acres, he immediately returned to Bristol and within a short time, exchanged the farm for a more practical blacksmith shop on School Street (formerly occupied by George Parsons as an auto repair shop) which he sold shortly afterward for \$1600—the final cash realization from his load of wire. The irony of fate plus trading finesse, placed in Barnes' hands within a few months (in the panic year of 1857) the plant of his former employer, A. S. Platt & Company. Having no good trades in sight, he started to make hoop springs and a few clock springs. The Platt Company had unconsciously deeded away future ownership rights when they paid Wallace Barnes in hoop steel, for he bought their plant with the cash finally realized from it.

Shortly afterward (a dispute exists on this between two historians, one giving the date of partnership as 1860 another approximately

1858) a partnership was formed known as Dunbar and Barnes and which, later developments have proved, formed the trunk of the spring-making tree in the United States.

To accommodate the growing hoop skirt business a queer appearing factory was built called "Crinoline Hall". (Taken from the popular name of the hoop skirt crinoline. Hall later used as a town hall until recent years.) The lower story of the building was open, to permit of wood drying for the furnaces, while the second story supported by rows of pillars, housed the portable spring hardening furnaces. For a time, the entire hoop skirt plant including a building to the rear of Crinoline Hall, operated three eight-hour shifts, six days a week. Women covered the hoops (flat tempered spring steel strips coiled) with braid and each day's production was shipped in barrels to the company's New York branch, in charge of E. B. Dunbar, son of E. L. Dunbar, at 116 Murray Street where 200 girls were employed in finishing the skirts for the market. Since the hoop spring production capacity of the Bristol factory far exceeded that of the New York finishing plant, the major portion of each shipment was sold to other concerns.

Every morning a mad scramble of buyers took place at the unloading platform of the Murray Street office. There were always three or four men fighting to sit on each barrel of hoops. A seat on a barrel was invariably considered a symbol of ownership by Mr. Dunbar. By noon all hoops had been sold and delivered for cash to "barrel sitters."

But fashion's ardor for hoop skirts cooled around 1863 and the fad departed quite as rapidly as it came into prominence. Dunbar & Barnes turned again to making springs for clocks and other manufactured articles. The partnership was dissolved (In 1864 according to one historian and in 1866 according

to another) when Wallace Barnes bought Mr. Dunbar's interest in the Main Street plant. (Early predecessor of the Wallace Barnes Company main plant located on the same site.) Thereafter, until 1923 when the expanded Dunbar plant was again absorbed by the Wallace Barnes Company, it was operated first by Colonel Dunbar until his death in 1872; by his three sons, Edward B., William A., and Winthrop W. as Dunbar Brothers until Edward B.'s death in 1907 when just prior to his death he incorporated the company as "The Dunbar Brothers Company."

From 1866, the history of the Wallace Barnes spring plant and to a lesser degree the Dunbar plant paralleled the development by Yankee ingenuity of a host of new products. The first of these was the crude lamp which extinguished the candle and made a market for what were called "chimney cleaner" springs for cleaning the chimneys of these kerosene lamps. In rapid succession came the screen tension springs, piano action springs, truss springs, coat collar springs, letter file springs, bank book springs, bicycle bell springs, toe clips, anti-rattler springs for buggies, trouser guard springs (made these by millions during highest point of bicycle fad) telephone springs, head band springs for telephone operators, sewing machine springs, firearm springs etc.

In the panic of 1893 the employees of Wallace Barnes sandwiched an occasional job order between all too frequent fishing trips. Business was almost at a standstill and save for the business acumen of Carlyle F. Barnes (son of Wallace Barnes and formerly a successful manufacturer of clocks with his brother Harry) in rebuilding the ill equipped and almost bankrupt business, the Wallace Barnes Company might well have been absorbed by its predecessor Dunbar, instead of now leading the procession of United States spring makers.

The financial difficulties of Wallace Barnes, the founder, arose from his insatiable trading instinct which cropped out in the form of swapping, speculating in real estate, buying cattle or horses with money, and steel for springs on notes. Notes (any number of them) never worried him until they came due. His many interests outside of his own spring business, including farming, promotion of fairs, pomology, fancy cattle and horse breeding, real estate operations and love of coon hunting, seemed to have been more exciting and necessary to his happiness than financial success in business.

Chief inventions which gave impetus to spring development at The Wallace Barnes Co., and to birth of western off-shoots of the industry between 1893 and the World War were the telephone, bicycles, automobiles, typewriters, machinery, phonographs, mechanical toys, electrical and other mechanical appliances.

A new era in spring making which started in 1914 with the great advances in metallurgy (according to Webster "the science and art of preparing metals for use from their ores") brought about countless refinements in spring design to which the world War gave impetus.

During the war 90% of the Wallace Barnes Company production went to fill exacting government

orders for rifle, pistol, machine gun, heavy artillery springs, fuses, and a variety of other springs connected with the science of destruction.

Unlike many companies which swelled to undue expansion under pressure of war demands and profits and were unable to survive the ensuing deflation, the Wallace Barnes Company continued expanding through the establishment of Wallace Barnes Ltd. at Hamilton, Ont., the purchase of the Dunbar plant in 1923, the acquisition of the Garrigus screw machine factory in Bristol, the building of a mill department in East Bristol to produce high carbon steel for the fabrication of springs and frequent additions to the main plant. Also, combines with several other spring companies in other states under the name of the Associated Spring Corporation were consummated in 1923. Fuller F. Barnes, son of Carlyle F. Barnes, was made its president. Harry C. Barnes, younger son of Carlyle F. Barnes took over with his brother, Fuller Barnes, the active management of the Wallace Barnes Company shortly before the death of their father in 1926.

The former is treasurer of the company and the latter is chairman of the board. Capital stock of the company is still the family treasure despite the fact that large responsibilities have been passed to skilled salaried management.

The company has a slogan of "A Million Springs a Day, A Million Pounds a Month" and maintains huge stocks and almost countless sizes of spring steel in stock. Actually the Wallace Barnes Company can itself produce beyond its slogan, not to mention the capacity of the Dunbar Brothers Company which operates as a separate corporation. Employment at the Wallace Barnes Co. now totals around 600, but has reached 900 during rush periods.

Early Uses for Springs

Who started this spring idea that has multiplied—leaped into thousands of forms with the birth of almost countless machines and utility items for human comfort, speed, safety and destruction? Credit for the first utilitarian application of a metal spring, apparently goes to the pre-historic jeweler of the Bronze and Iron Ages who first saw the possibilities of improvement in the crude pins used to fasten skin cloaks about the body and devised a spring-like clasp for the purpose. The clasp was eventually made of copper or bronze hammered into wire form, bent into shape. Hoops were later introduced in the pre-historic era forming a full fledged helical torsion spring similar to our modern safety pin. Many of these springs, which have since been found in all parts of Europe and



A spring that's not a spring, but performs a useful function as a mothball holder to hang in closets.



An assortment of torsion springs and two screw machine parts.

Asia, are of ornamental design—genuine masterpieces of the jeweler's art.

The ancients also used a crude metal spring of heavy design to operate the catapult which in wartime hurled stones, iron, poison arrows, and dead or diseased animals over the walls of enemy cities to spread pestilence and death. In the days of the armored knights the ingenious ancients fashioned the ancestor of the "stage hook", the "de-horsing iron". This fiendish weapon consisted of an incomplete heavy circular iron ring studded with torturous sharp metal prongs with a spring gate opening at one end. This ring, welded on the end of an iron pole effectively barred the only method of escape when sprung around the neck or arm of an enemy knight. The complicated lock mechanism of the ancient "strong box", ancestor of the modern bank vault, was made of hammered metal parts, actuated by small flat springs. A perfect example of an ancient helical spring is the Grecian bronze armlet fashioned in the 5th century, B. C., and worn for defense. Many other excellent examples of ancient springs are to be found in our larger museums.

But pure ingenuity reigned in spring design until after Robert Hooke discovered in 1660 "that in springy bodies, deflection is proportional to load." (Known as Hooke's Law.) Born on the Isle of Wight in

1635, son of a poor parish minister, Robert Hooke entered Christ Church, Oxford, England, as a "servitor" at the age of 18, or five years after the death of his father. Cursed in his youth with poverty and ill health, Hooke became embittered—put his able mind to prodigious tasks experimenting with Robert Boyle, principally on air pumps, which laid the foundation for his method of regulating clock movements by means of a balance spring and to the discovery of his law. While pursuing his experiments with Boyle, he also studied, won his M.A. degree, and in 1665 was made professor of geometry at Gresham College. One year later and as a result of his plan for rebuilding London after the great fire of 1666 (plan not accepted) he was made a "surveyor" to aid in the progress of reconstruction. He withheld from publication his law, discovered in 1660, and his subsequent invention of the balance spring type of watch until 1676 while he attempted to realize on them financially. He was offered and refused what is now known as process patent for his watch which was not yet perfected sufficiently for commercial success.

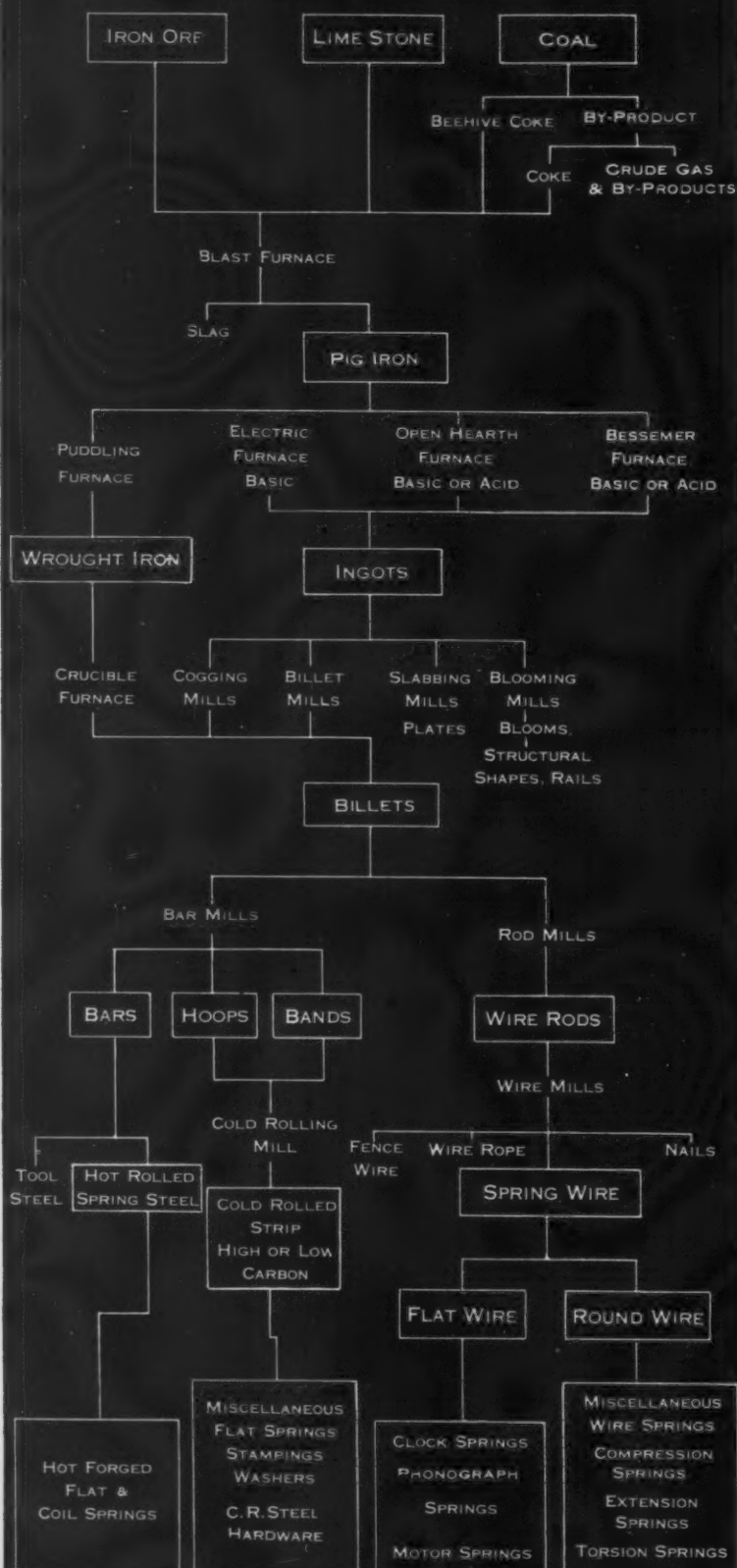
About 1675 a bitter dispute arose between Hooke and Christian Huygens (inventor of the pendulum clock in 1656; experimenter on balance wheel watches) as to their relative claims to the spiral hair

spring balance invention which Huygens devised that year. Torn between two fears—the possible loss of maximum profit from his inventions and the hazard of complete loss because of possible priority rights of Huygens, Hooke published his law and six other discoveries in the undecipherable Latin Anagram form "CEIINOSSTTUV" at the close of a pamphlet containing his lecture on Helioscopes, printed in 1676. Two years later he translated and amplified his anagrams in another pamphlet "Lecturera de Portentia Restitutia or of Spring." In the latter pamphlet he applied his first law to coiled helical springs, wire in tension, wooden beams, confined gases and explained how to use the law to construct spring balances, the use of balance to check the variation of the earth's pull as between the bottom and top of a high mountain as if in anticipation of Newton and his studies on gravitation.

Despite his position as surveyor which paid him sufficient funds, if invested, to have guaranteed him relative comfort in more advanced years, he died in near poverty after selling his library, leaving untouched in a locked iron box his life savings. Though he gained little of worldly goods or pleasures, save for the possible joy of originating many lines of work, he laid the cornerstone upon which the mathematicians and physicists following him



FAMILY TREE OF SPRING STEEL



established a solid foundation for the modern "Theory of Elasticity."

Thomas Young, though less of a mathematician than his imaginative predecessors, was more practical, publishing in 1807, a course of lectures on "Natural Philosophy and the Mechanical Arts", which was a standard reference volume until he gave numerical value to the inherent flexibility of a material in his treatise known as "Modulus of Elasticity" or Young's Modulus." Young was the connecting link between the philosophical mathematicians and the modern machine and spring designers.

Other Connecticut Factors

F. N. Manross (descendant of Nehemiah Manross, third builder of a home in Bristol, Conn., in 1728, near that built in the same year by Ebenezer Barnes, and of Elisha Manross, first U. S. clock maker to use jeweled movements) had what was known as a "timing contract" with the E. N. Welch Clock Company in Forestville (predecessor of Sessions Clock Co.) prior to 1880. Here he developed small snail-like hair springs which he wound by a hand operated bench machine.

In 1880 he resigned from the Welch Co. to specialize in the manufacture of these springs, first starting in a modest way in his kitchen and later in a one-room factory. (still standing as store-house for present plant) Later the plant which became known as F. N. Manross & Sons (unincorporated) has made springs for phonographs, player pianos, speedometers, electrical recording instruments and many others. These fine hair-like springs are made from steel, bronze, sterling

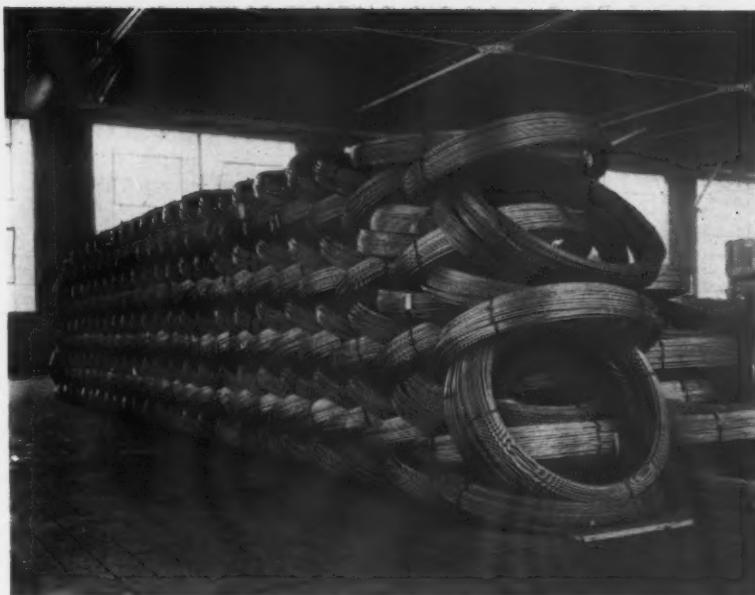
This tree has borne fruit at the Wallace Barnes Co. It fed their men with a hearty meal of knowledge at one of their regular employe meetings.

silver, nickel silver and stainless steel wire, drawn through diamonds and curled into snail-like patterns individually by skilled operators on hand-propelled coiling machines designed and developed under the guidance of F. N. Manross. The six operations in the manufacture of these springs are: rolling, coiling, separating, assembling with collets, centering and inspecting, the latter taking place between other operations.

Approximately 80% of the cost of hair spring manufacture is labor. The springs sell to producers of other complete products for \$4 to \$8 a thousand. A. N. Manross, son of the founder, who entered the business in 1911 has been manager of the company since his father's death in 1923. Normal employment is from forty to fifty persons, but during 1928 and 1929 it reached a maximum of ninety.

The Humason Mfg. Co., Forestville, second largest Connecticut manufacturer of springs, is located on the site where Chauncey Boardman, early Yankee clock-maker, started the manufacture of primitive wall pattern clocks in a small two story barn-like structure on the bank of the Pequabuck River in 1813. This crude factory, together with another built in 1893 by Samuel E. Taylor to manufacture clock verges, eventually after several changes in ownership, fell into the hands of Young Brothers in 1899, and in 1910 became the property of Peck & Young. (the Humason Mfg. Co. before change to its present name in 1919)

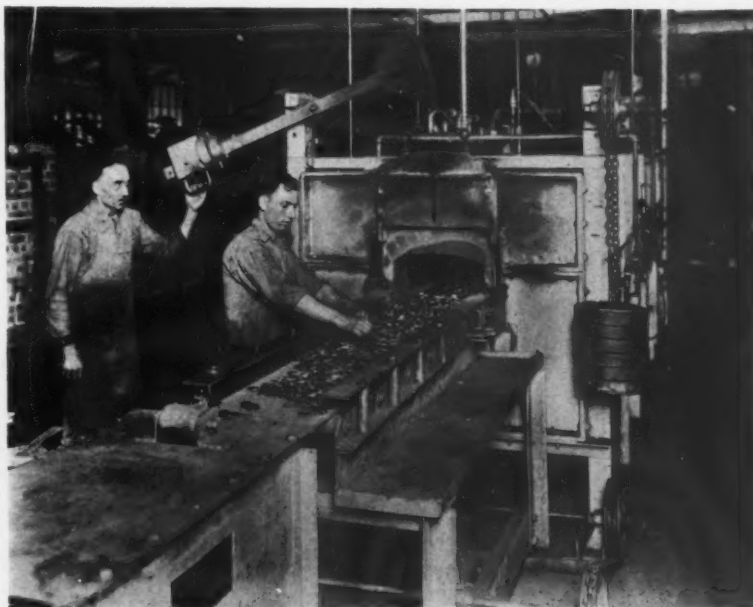
Peck & Way Company was formed in 1906 to manufacture springs. A merger in 1909 with Young Brothers, screw machine parts manufacturers, formed Peck & Young which since 1914 has been controlled by W. L. Humason, and since his death in 1925, by his son L. C. Humason, the present president of the company. The elder Mr. Humason had a background of



Tons of flat strip steel waiting to be formed into "tailor made" springs at the call of the customer.

manufacturing experience in the cutlery field, having been an executive from 1889 to 1912 in the firm of Humason & Beckley of New Britain, manufacturers of the H & B pocket knife, which was sold to Landers, Frary & Clark.

During the World War the company developed magazine springs for machine guns and others for the famous 75 millimeter shells. In order to keep pace with war production demands, a plant employing 250 hands was established in New



View of hardening furnace where springs and other miscellaneous parts receive their final tempering by high heat and cool oil baths.

Britain, and together both New Britain and Forestville plants produced 90,000,000 springs for munitions purposes.

Immediately after the close of the war the New Britain plant was closed and all equipment moved to the main plant where floor space has been more than quadrupled since its control came into the hands of the Humason family. In 1919 the company was faced with the necessity of changing over completely from almost 100% munitions production to a peace time basis. It accomplished the job with complete success so that sales in the year 1920 exceeded those of the war-time peak. Through development of a number of high speed spring machines, the company is able to produce flat springs at a very rapid rate, thus enabling it to compete with other larger U. S. units for automobile, radio and other large volume business. The company's spring products and screw machine parts are sold chiefly in New England and states east of the Rocky Mountains, both direct and through agents, the chief one being located in Detroit. Employment has ranged from a wartime peak of around 400 down to a normal of around 100 at the present time.

From the Indian title—the original name of Waterbury and surrounding territory—came the name of the Mattatuck Mfg. Company, organized in 1896 by Henry L. Wade, formerly of the Waterbury Clock Company and George E. Judd, formerly with the Waterbury National Bank, to make upholstery nails and jack chains. In 1906 the company started to produce spring bed fabrics and other wire forms which led it gradually into the development of flat and spiral or helical springs and screw machine parts in 1909. Mr. Peck of Peck and Way, antecedent of Humason Mfg. Company, was an early developer of the spring business at Mattatuck, which is now overshadowed by the

company's other lines, principally toys, pressed metal specialties, plumbers chain etc. Wm. E. Fielding joined the company in 1906 as secretary and general manager, succeeding Mr. George E. Judd to the presidency after Mr. Judd's death. He is now president, treasurer and general manager. Although the company makes no claims for outstanding prominence in the spring-making field, it was the first to receive an order for cartridge clips from the U. S. Government during the war and is believed to have produced more than any other single manufacturer, making over 105 million in all. Employment in all branches of the company's business has in the past reached a peak of 600 but now stands at around 450.

The Peck Spring Company, organized in 1916, was the result of a father's ambition for his two sons. The father, D. C. Peck, a former salesman for Shelton Brass Hardware Company (now out of business) and the American Pin Company, convinced his two sons, then spring makers in another Connecticut plant, that their mechanical ability could be utilized to the best advantage in a small business of their own. Therefore, in 1916, D. C. Peck and his two sons, D. K. and P. L. Peck, purchased a motor, an automatic spring coiler and two foot presses and began remodeling a barn on the Peck property to use as a factory. Orders received for springs prior to completion of the factory were fabricated in a home workshop improvised in the basement.

During the first year only 3 girls were employed to do the light work while the two sons did the automatic and heavier presswork and D. C. Peck, the shipping. Heavy war demands on the wire supply of the nation almost nipped the business in the bud during 1917. But D. C. Peck, the salesman, was finally able to persuade the American Steel and

Wire Co. to furnish a sufficient quantity of wire to continue business.

In 1920 the company was made a closed corporation and began production of screw machine parts and a wider variety of springs, including those used in electrical appliances, musical instruments, office appliances, motors, radios and many other modern appliances. In the decade between 1920 and 1930, the company added to its plant facilities and reached its all-time production peak with annual sales totaling around \$250,000 in all three departments—springs, automotive and screw machine. Although the company produces springs for hundreds of different uses, it has made somewhat of a specialty of automotive replacement spring assortments for jobbers, garages and other automotive supply houses. Since the death of D. K. Peck in 1928, the ownership and management of the company has been in the hands of P. L. and D. C. Peck. Employment ranges from 40 to 60 persons.

Statistic—The U. S. spring industry which was started on the road to big business by Col. E. L. Dunbar and Wallace Barnes in 1847 and 1857 now employs about 6000 persons, \$22 million in invested capital and sells normally about \$20 to \$22 million in springs annually. The Spring Mfg. Association, organized last year with offices in Buffalo, is headed by Fuller F. Barnes as president and its secretary is R. I. Neithercut, one time secretary of Bridgeport Brass Co. Inspired by the NIRA it has 40 members representing about 80% of the industry's volume produced by 70 units, most of which are small companies. The Association excludes manufacturers of railroad car helical, bed, upholstery, hot wound and elliptical springs. Connecticut's six units employ about 1200 persons and represent 20% to 30% of U. S. spring industry.

NEWS FORUM

Expanded Board. Stockholders of Landers, Frary & Clark, manufacturers of household electrical specialties, New Britain, Conn., added three to the company's directorate and re-elected all former directors on the afternoon of March 14. Men added were Charles P. Cooley of Hartford, Richard L. White of New Britain, who is treasurer of the corporation, and Daniel M. Shepard a vice-president, of New Britain. Directors re-elected were Arthur G. Kimball, president; Vice-Presidents F. A. Searle, Joseph F. Lamb, W. H. Rattenbury, Herbert R. Owen and D. M. Shepard; secretary, Henry T. Burr; treasurer, Richard L. White; assistant treasurers, O. N. Judd, Albert G. Anderson; assistant secretaries, W. G. Baker, Harry Traver and Paul V. Guiberson. The $37\frac{1}{2}\%$ quarterly dividend was also voted for payment throughout the coming year.

★ ★ ★

Promoted. John J. Kaicher, former assistant treasurer of the American Silver Company of Bristol, Conn., has just been made treasurer of the company.

★ ★ ★

Home From Britain. Edward O. Goss, president of Scovill Mfg. Co., Waterbury, just recently returned from London, England, reports that England is making steady progress towards recovery which he believes is healthier and surer than that made thus far by the United States. In his talk with a representative of the Waterbury Republican, Mr. Goss pointed out that the prospects for increased trade with England were not very good "except for raw materials and certain specialties not made in England because of the high tariff".

★ ★ ★

Heads Oil Burner Group. Rallston M. Sherman, president of the Silent Glow Oil Burner Corporation, Hartford, Conn., was elected president of the

American Oil Burner Association when that organization held its eleventh annual convention during the first week in March. Mr. Sherman was elected vice-president and member of the executive committee of the Association in Boston in 1932 and has been for some time a director and also president of the Distillate Burners Association.

★ ★ ★

Paper Company Dissolves. The Taylor-Atkins Paper Company of Burnside, Conn., terminated its corporate existence upon a decision of the board of directors made at its meeting Wednesday, February 28. Robert R. Witbeck, president-treasurer of the company, stated that the action was a "voluntary liquidation". During normal operations the company employed about 130 persons and at peak, 200. An inventory of the company's stock and equipment is being made. Claims against the corporation may be presented within four months from February 28 to Addison G. Brainerd and George F. Kane, liquidating committee, at the Hartford National Bank and Trust Co. It has been officially stated that the company is solvent.

★ ★ ★

Silver Resumes Earnings. A net profit to the tune of \$242,851.39 ventured forth from the books of the International Silver Company, Meriden, after three years of operating in the red. The company's Canadian subsidiary continued on the wrong side of the ledger with a loss of \$27,081.97. Sales increases and a production cost decline during the year combined to turn the tables.

Alterations in the Colony Street plant, formerly Factory A, will soon transform the first two floors of factory space into showrooms for the display of the entire Insilco stock, general flat and hollowware lines and will also provide generously for a salesmen's convention room.

★ ★ ★

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Brass Looks Up. The Scovill Mfg. Co., Waterbury, manufacturers of products made from brass, copper and wire, sidestepped a loss in 1933 by \$305,688 net profit after making deductions for taxes, depreciation, special inventory reserve, interest on debentures and amortization of debenture discount. By comparison, this showing was nearly five times better than for the previous year, showing a net loss of \$1,322,932. Dividends amounting to \$654,275 were paid, drawing the surplus down from \$2,418,185 to \$2,256,019.

Named Again. Officers of the Manning-Bowman Company, Meriden, Insilco subsidiary, were re-elected at the annual meeting February 28, as follows: President, B. M. Tassie; Vice-Presidents, Albert W. Savage and H. S. Mirrieles; Secretary and Treasurer, R. M. Rice; and assistant Secretary-Treasurer, J. A. Sternberg. Manning-Bowman produces household utility items, many of which are electrically operated.

Clocks Move Forward. Sales of the New Haven Clock Co., New Haven, increased from \$989,000 in 1932 to \$1,425,312 in 1933, according to reports issued at the company's annual meeting held on February 28. Prices were reported to have increased 20%; wages 33-1/3%. Big increase came in last quarter. Officers were re-elected as follows: Chairman, Edwin P. Root; President, Richard H. Whitehead; Vice-Presidents, Edward Stevens, George A. Whitney and Willard E. Chamberlain; Secretary-Treasurer, Philip H. English; Assistant Secretary, Fred L. Bradley; and Assistant Treasurer, Fred A. Neumann.

Carpets Down; Profits Up. Mrs. Consumer bought more rugs and carpets last year by \$2,145,087 worth than in 1932, and thus rung up for Bigelow-Sanford Carpet Co. a net profit of \$1,140,680, after charging full depreciation of \$757,624 and setting up adequate reserves. After dividends on preferred

stock, this profit permits a payment of \$3.12 per share of common stock outstanding. Total net sales for 1933 reached \$12,569,746.

A Worthy Honor. Lieutenant Governor, Roy C. Wilcox, of Meriden has just been made a chevalier of the National Order of the Legion of Honor by the French government, in recognition of his outstanding war service in France, it was announced on March 15, at the fifteenth anniversary celebration of Meriden post, American legion. Mr. Wilcox, secretary of the International Silver Company, entered the war in 1917 as a truck driver with the French forces transporting munitions to the front line; won the French Croix de Guerre for bravery; became a lieutenant in the French army and received several additional citations for bravery. After the war lieutenant Wilcox entered politics, and in 1932 was elected Lieutenant Governor. Hearing of his last political honor, the French government decided recently to award Lieutenant Wilcox the coveted decoration in the Legion of Honor, notifying him through Charles Ferry de Foutnowville, French consul general at New York.

Spike Super-Optimism. Remington-Noiseless Typewriter Company, Middletown, Conn., subsidiary of Remington-Rand Incorporated, hastened to correct the press story on March 15 that some 400 employees would be added at once. That report caused hundreds of men to besiege the plant for work a few days previous. It was reported at the north end factory that three 8-hour shifts would be started on Monday, March 19, and that there was a good possibility that three shifts will be worked on a five-day basis weekly in the near future because of production increases.

Merger Upheld. In a "5 to 4" decision, the Supreme Court of the United States upheld the merger of the Arrow Electric Company with the Hart & Hegeman Manufacturing Company, which has previously



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been held in violation of the Clayton Anti-trust Act by the Federal Trade Commission and by the lower court. In handing down the court's decision, Justice Roberts said it was unnecessary to consider whether competition was diminished since "the commission lacked authority to issue any order against the petitioner." In his dissenting opinion, Justice Stone said the Clayton Act has been nullified in part by the majority ruling and that a way had been opened up by which corporations could effect mergers the law was intended to prohibit.

Bridgeport May Lose. Possibility of moving the Bassick Company of Bridgeport, employing 540 in the manufacture of automobile castings and other accessories of the parent company, the Stewart Warner Corporation, was seen in statements included in the company's annual report released at New York on March 7. In the event the move takes place all machinery and equipment will be moved to the Chicago plant of the Stewart Warner Corporation.

Council Appraises New Deal. "President Roosevelt's New Deal" was both criticized and praised by officials of the New England Council which held its 34th quarterly session at the Hotel Bond, Hartford, on Thursday evening, March 15 and all day Friday, March 16. Henry D. Sharpe, president of the Brown & Sharpe Mfg. Co., of Providence, Rhode Island, and president of the Council, severely criticized the Wagner bill for settling industrial disputes, the Fletcher-Rayburn Stock Market Control bill and the President's reciprocal tariff plan, claiming that the passage of these bills would retard rather than hasten recovery.

Senator Henry Parkman, Jr., chairman of the Massachusetts Commission on Interstate Compacts, defended the NRA by saying it "has made an immensely valuable contribution to our problems". has limited to a very large degree destructive competition and labor costs between the North and South which has materially aided New England.



Interior view of the new salesroom of The John P. Smith Co., at 425-433 Chapel St., New Haven. The Company has specialized for many years in the manufacture and sale of ornamental metal work, fencing, fireplace fixtures, wire cloth and other unique metal specialties.

Other criticisms were voiced against high CWA wages, the President's plan for cutting working hours to a 36-hour week, against continuing NIRA on a permanent basis because of the insurmountable difficulties of administration.

Outstanding among the reports given at the meeting was the one on "Results of NIRA upon Smaller Industries" by Robert Holding, Jr. of Providence, Rhode Island. Although answers to queries which appeared in the questionnaire forming the basis of this report, indicated a wide variance of opinion, it disclosed important tendencies as follows: that 68.5% of the 343 companies reporting showed sales increases from 20% to 39%; of 392 firms 62.5% reported increases ranging from 10% to 29%; of 361 firms reporting, 56.5% claimed profit decreases ranging from 1% to 19%; of 380 firms reporting, 82.6% reported increases in costs over last year ranging from 10% to 29%; of 378 firms reporting, 69.3% reported increased payrolls over the previous year ranging from 10% to 29%; of 377 firms reporting wage rates, 71.4% reported increases ranging from 10% to 29%; of 367 firms reporting on number of factory workers, 53.7% reported increases averaging 19.6% over a year ago; of 357 firms reporting hours of operation, 70% reported decreases ranging from 10% to 29%; of the 332 firms reporting raw

material costs, 85.2% told of increases over the previous year ranging from 10% to 29%; of 251 firms asked to describe difficulties in financing operations, 115 claimed no difficulty, 59 claimed they could not secure commercial loans; others of the 136 having financial difficulty were affected by (1) low collections, (2) inability to secure long-term credit, (3) stiffening of credit terms and codes of suppliers, (4) customers' failures, (5) necessity for financing customers' paper because of banks' refusal to do so.

Bonus on Earnings. About 1600 employees and salaried men of Colt's Patent Fire Arms Mfg. Company, Hartford, have just received a special payment of 5% on their earnings during the months of January, February and March. This is the second bonus payment made by Colt's in recent months, the first being a special distribution of 2% based on earnings for the entire year of 1933. Decision to make this special payment came at the regular organization meeting of the Board held on Thursday, March 16 when Samuel Stone and his associate officers were re-elected as well as the entire slate of directors for the coming year. Profits for 1933, after depreciation and tax reserve were \$675,131.94 as compared with \$20,795.48 in 1932. After dividends, taxes and depreciation charges were made \$408,173 was carried to surplus increasing it to \$3,345,633. President Stone reported 1554 employees on payrolls as of January 1, 1934 compared with 1219 January, 1933. He further reported that the company was operating under five different codes with two more awaiting approval, which had caused some confusion and worked hardships on employees. The company has four divisions: arms, plastics, electrical and washing machines.

Death in Torrington. Thomas W. Bryant, for many years president of the Union Hardware Company of Torrington, Conn., and prominent in many other industrial organizations, died at his New York apartment of a heart attack on March 15. He was

74 years old, a native of New Haven and had headed the Union Hardware Company since 1903. Trained in his youth as a painter, he forsook art to enter business, first becoming secretary and superintendent of the Electrical Supply Company, Ansonia, Conn., for eight years, joining the Union Hardware Company in 1888 as secretary and manager. In 1903 he became president of the company and chairman of the board in 1928. A prominent Republican always, he was a presidential elector in 1916. His wife, the former Marie Elsie Hooghkirk, four daughters and one son survive.

Death in Meriden. Clarence P. Bradley, 71, president of Bradley & Hubbard Mfg. Company, died at his Meriden home on March 9, after a prolonged illness of 2 years. Mr. Bradley had been connected since his youth with the manufacturing concern, which was founded by his father, the late N. L. Bradley, and Walter Hubbard in 1854. One of Meriden's best known citizens, noted for his many public benefactions, he had given in 1927 \$150,000 for the erection of a nurses' home at Meriden Hospital. He was a member of the advisory board of the Meriden branch of the Hartford-Connecticut Trust Company, a director of the City Savings Bank and Meriden Trust and Savings Company, a 32nd degree Mason, a Knight Templar and Shriner and member of the B. P. O. E., Sons of the American Revolution, Home Club and Highland Country Club. Under Governor Trumbull he served as trustee of the Connecticut School for boys and was also a member of the Meriden park board. Funeral services were held at his home Monday afternoon, March 12, and burial was made in Walnut Grove Cemetery with the Knights Templar having charge of the committal service.

Ordinance Change. Ordnance department order No. 46, dated February 15, 1934, changed the name of this District from the Bridgeport Ordnance Office to the Hartford Ordnance District. The order was

Continued on page 25

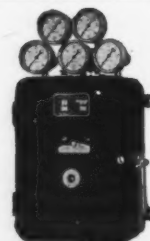


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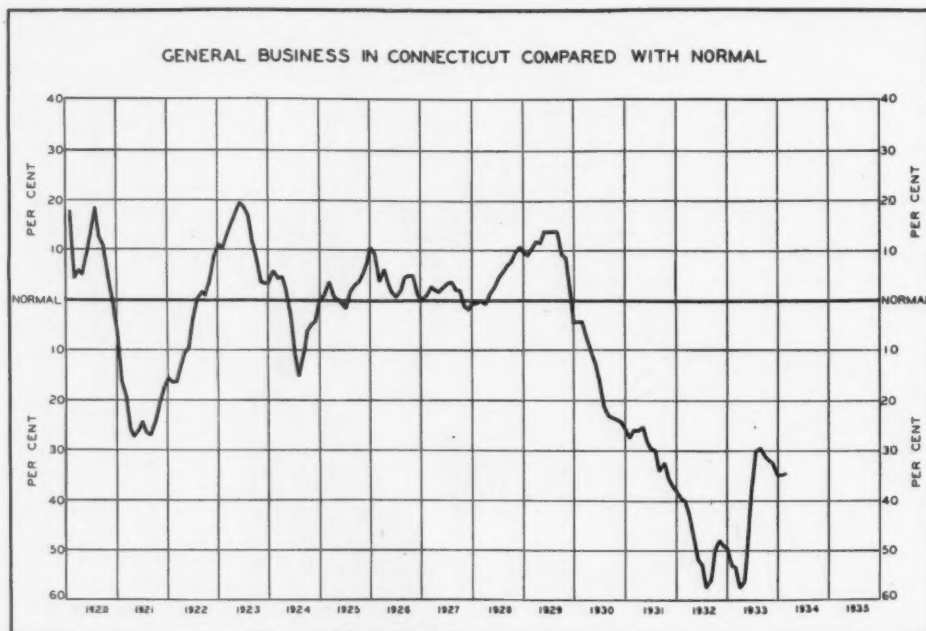
I'VE seen a lot of magicians in my day but they've all got the same recipe; they deceive the eye at the expense of your wallet.



BUSINESS

General Summary. As indicated by the composite index of business activity, general business in Connecticut expanded slightly during February. The index would have experienced a larger increase had not the volume of freight car-loadings and metal tonnage carried been so adversely affected by the severe snow storms during the latter part of the month. With the decreases in these two components eliminated, the general business index would have risen to the level of last November. The number of

In the United States, general business activity in February continued to expand for the third consecutive month. Substantial gains occurred in automobile production, steel ingot production and electric power production while freight car-loadings, due in part to a larger movement of coal, boot and shoe production and silk production were also higher than in January. Weekly reports covering February and the first half of March indicated that general business activity was increasing sharply, the weekly



man-hours worked in factories increased in excess of the usual sharp seasonal rise with all but one city reporting large increases. Employment in factories in cities for which data were available rose approximately 3% over January and was, with the exception of two months last fall, the highest in almost three years. Cotton mill activity increased substantially for the second consecutive month and bank debits to individual accounts in three cities remained at the January level. During the first ten days of March, average freight car-loadings per day rose rapidly over the abnormally low February average, and reports from one large industrial city indicated further substantial increases in the number of employees on factory payrolls and the total number of man-hours worked.

index of the New York Times rising seven points during that period. Electric power production, freight car-loadings and steel ingot production were expanding and automobile production increased to 79,000 cars during the week ended March 17 which was almost back to the 1930 level. Retail demand for automobiles was exceptionally good. On the other hand, labor troubles and the possibility of strikes in Detroit beclouded the outlook in this industry and in part, also, the general business outlook.

The trend of wholesale prices during the past four weeks continued upward although at a slower rate than in preceding weeks. According to the index of the U. S. Bureau of Labor Statistics, wholesale prices of 784 commodities on March 10 were

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0.7% higher than four weeks earlier. During that period, the price of foods rose 2%, metals and metal products 1½% and farm products, chemicals and drugs and household goods 1%. Hides and leather products decreased 2% but other commodity groups showed no material change. The cost of living again moved upward during February and was 1% above the January level of 8½% above a year ago. Food prices advanced 3% over January but other items were about unchanged. Compared with February 1933, clothing prices increased 25%, food 19%, sundries 3% and fuel and light 1%. Rent declined 4% during the twelve month period but has been practically stable during the past four months.

Financial. The number of business failures in Connecticut during the four weeks ended March 10 declined 40% below the corresponding period last year. Net liabilities of failures were also very low. The number of real estate sales was reduced largely because of the severe weather but, on the other hand, the total value of mortgage loans continued to rise steadily and in February and March was 80% above the same period of 1933. The number of new corporations formed and the total capital stock involved decreased sharply.

Construction. Activity in the construction industry was hampered during February by the abnormal weather but some recovery in building operations has taken place since then. Early in March general contracts were awarded for the construction of a church and rectory in New Britain to cost \$100,000 and for the construction of an addition to a candy factory in Naugatuck to cost \$60,000.

In the United States, new building also declined abruptly in February due to decreases in contracts awarded for public works projects and for other non-residential building. New residential building, on a daily average basis, increased less than seasonally expected over January.

Labor and Industry. Manufacturing activity in Connecticut cities with one exception exhibited during February a decided upward trend. As a result, the index of the number of man-hours worked in factories in five cities stood at 37.7% below normal during the month compared with 39.1% (revised) below in January and 55.4% below a year earlier. Increases of greater than seasonal magnitude in the number of man hours worked in February were reported in Bristol, Bridgeport and New Haven. Compared with a year previous, these cities showed increases of 52%, 47% and 10% respectively. In New Britain, activity was slightly smaller

than in January but 59% ahead of February 1933. Employment in factories in Hartford, Waterbury and Torrington also continued on the upgrade during the month with increases of 5% and 2% over January reported in Hartford and Waterbury, respectively, and a small increase indicated in Torrington. Textile centers in eastern Connecticut continued to increase production in response to a large volume of orders. Textile mills in Norwich were working two shifts a day.

Factory employment and payroll totals in the United States both increased sharply in February. Employment at the end of the month in Detroit automobile plants was reported to be back almost to pre-depression levels.

Trade. After allowance was made for the usual seasonal variation, retail trade in the United States during February was maintained at the January level, the index of sales made by chain and department stores and mail order houses declining only fractionally. Trade in the agricultural sections of the country was much more active than elsewhere indicating the effects of increased income in those sections aided by higher prices for agricultural products.

Transportation. February freight car-loadings in Connecticut were largely distorted by weather conditions during the third week of the month which greatly restricted shipments. However, car-loadings in the weeks following quickly climbed back to and above the level that obtained before the storms. Freight car-loadings in the United States increased fairly steadily from week to week and in the four weeks ended March 10 were running 26% ahead of a year earlier and were also above the corresponding period of 1932.

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DEPARTMENTS

Accounting Hints for Management

Contributed by Hartford Chapter N. A. C. A.

Notes on Corporation Tax Returns. Corporations reporting on the accrual basis for 1933, or for any fiscal year prior to July 1, 1934, should include the accrual for 1934 capital stock taxes (due July, 1934) as an income tax deduction for the current year. This means that most corporations will have two such tax payments within their taxable year. Generally speaking it will not be possible to accurately determine the amount of this tax, but the best estimate or approximation should be used. Corporations which have not considered this in their returns should either file amended returns or claims for refund in order to establish their deductions; otherwise this deduction will be lost or lapsed. It has been indicated that the Bureau of Internal Revenue will insist that taxpayers on the accrual basis treat this deduction within the year in which it had accrued, notwithstanding that it is payable at a later date.

By a recent Treasury Department Decision, TD 4422, (CCH-Paragraph 6138), the Bureau has tightened up on its depreciation regulations. Article 205, Regulations 77, and corresponding articles of prior Regulations have been amended and a very significant clause inserted, whereby depreciation for any one year is limited "to such ratable amount as may reasonably be considered necessary to recover during the remaining useful life of the property the unrecovered cost or other bases", and it further requires substantiation of the deductions claimed. This Decision appears to be a substitute for the proposal made in connection with pending tax litigation which would have arbitrarily curtailed depreciation deductions. The ruling of the Bureau will be welcomed in many instances as it should afford the opportunity to adjust depreciation schedules which have become distorted on straight-line bases.

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Advertising. Appropriations for national advertising constitute a fair portion of marketing costs; and portions thereof spent on media where the product has no market due to climatic or economic conditions, is, therefore, sheer waste. Expenditures for advertising refrigerators in the far North, or for electric heaters in the far South may sound absurd,

but equal folly is readily to be found in the selection of media for many other products.

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Hartford Chapter, N.A.C.A. Meeting. As a sequel to the discussion of "Market Analysis" at its March meeting, Hartford Chapter will hear Forrest H. Figsby of Ernst & Ernst, New York, discuss "Accounting for Selling & Distribution Costs" at its next monthly meeting, to be held at the Elm Tree Inn, Farmington, April 17, 1934.

Transportation

Eastman's No. 1 Report. Public ownership and operation was predicted as the ultimate solution of the present-day railroad problems in the first report of Federal Coordinator Joseph B. Eastman, filed on January 20. Lack of adequate private railroad credit is given as a reason which will force government ownership. In his second report, submitted on March 10, Mr. Eastman discusses the need for federal legislation to regulate all forms of transportation other than railroad and suggests that the Interstate Commerce Commission is the proper tribunal to be placed in charge of such regulations. Coordinator Eastman rejected practically all railroad proposals for the relaxation of regulation and recommends the passage of bills that would (a) permit the Commission to prescribe both minimum and maximum rail-water rates and to establish through railroad routes where it deemed it necessary in the public interest, regardless of the "short-hauling" of any carriers; and (b) include ports and gateways in protection of Section 3 against undue preference and prejudice. He also proposed a bill given in the appendix of his second report, which is based largely on the Rayburn bill with few deviations, proposing that the Interstate Commerce Commission be empowered to supervise the regulation of common and contract motor carriers in practically the same way as it now regulates railroads. It would further require as a precedent to operation over the highways, possession of a certificate of public convenience and necessity of all common carriers by motor truck, and in addition, require filing of all schedules of rates and charges. Contract carriers would be required to obtain a permit before engaging in interstate operation as well as to file and adhere to published rate schedules.

In a second appendix to his report, the Coordinator suggests the details of a bill to vest the power of regulation of water lines in the Interstate Commerce Commission in much the same manner as in the case of common motor carriers by truck and bus.

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Commissioner Rules. Because a number of automobile owners were found to have taken advantage of the low Georgia registration of \$3 per year, State Motor Vehicle Commissioner Michael A. Connor ruled on March 14 that "all residents of Connecticut, operating particular motor vehicles in this state are required to take out Connecticut registrations for such motor vehicles," except when Connecticut residents have a business location outside the state and operate commercial vehicles there or in interstate business. This ruling not only positively prohibits Connecticut residents from using Georgia registrations but also affects Connecticut trucking firms who have registered many of their commercial vehicles in neighboring states where rates were considerably lower than in Connecticut.

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Heavy Toll. North Pole weather in Connecticut during February cost the New York, New Haven & Hartford Railroad approximately \$600,000 because of expenses involved in clearing their tracks. Factors in this cost were: use of 38 snow flanges, eight snowplows, additional and extended employment of man power, increased consumption of fuel, overtime due to delayed trains and feeding of passengers on snowbound trains. The effect of the storms has resulted in a deficit for the New Haven during February approximating \$900,000. March freight business and passenger traffic boom will serve to offset this deficit to a slight degree.

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Railroads Ask Exemption. Because similar reports are now being made to the Interstate Commerce Commission for public record, the railroads of the nation recently asked the House Interstate and Foreign Commerce Committee to exempt them from provisions of the pending Fletcher-Rayburn bill which would require all corporations issuing securities to make elaborate reports to the Federal Trade Commission. The committee was said to have manifested a sympathetic attitude toward the railroads' proposed exemption as stated by R. B. Fletcher, counsel for the Association of Railroad Executives.

Unexpected Favorite. Railroads hauling anthracite coal into New England, on March 3 received support of their freight rates from an unexpected source, when the New England Traffic League filed a petition with the Interstate Commerce Commission asking it to refuse coal rate reductions in lieu of voluntary and substantial reductions made in anthracite coal rates last August. In the opinion of the Traffic League, any further reduction would result in unwise depletion of defendant carriers' already inadequate revenues and possibly an increase in the present rates on manufactured products of New England industries to offset that loss.

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Pennsylvania Control Denied. In an interview with the Providence Journal, following announcement that the Interstate Commerce Commission had ordered an investigation of the Pennsylvania holdings in the New Haven road upon complaint of the six New England governors, President John J. Pelley, president of the New Haven, announced that the Pennsylvania did not control the New Haven and could not if it wanted to. Mr. Pelley acknowledged ownership of more than 20% of the New Haven's voting stock by the Pennsylvania and the Pennroad Corporation but declared that since the New Haven stock was offered to the public, the management had no control of its ownership.

The commission's investigation will make inquiry into the following: (1) the effect of substantially lessening competition between the Boston & Maine and the New Haven, or between them and the Pennsylvania; (2) the effect of substantially lessening competition between the three railroads, acting conjunctively, and other railroads operating in trunk line territory; (3) The effect of a restraint of commerce within the New England states; (4) The effect of setting up a New England railroad monopoly.

Foreign Trade

Cultivating Puerto Rico. Announcement has just been made that a cooperative office of the Bureau of Foreign and Domestic Commerce has been established in San Juan, Puerto Rico. Although primarily established to provide the Puerto Rican business community with information and services to assist in the foreign sales of Puerto Rican products, the Bureau will receive in return such information concerning trade and industry of the insular possession as will be of value to American firms and individuals in their dealings with Puerto Rican firms. The Bureau is again resuming the service of report-

ing on firms in Puerto Rico, using discretion in determining what inquiries to handle, in order not to break down the arrangement with unimportant or ill-prepared inquiries. All expenses connected with the administration of the work at San Juan will be borne by the Department of Agriculture and Commerce of Puerto Rico.

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Small Industries. A small industry service committee of the Bureau of Foreign and Domestic Commerce manned by Messrs. Oxholm, Chairman, George and Pickard, has just been announced. The committee will serve as a clearing house for all inquiries regarding small industries and will coordinate and cooperate with the Commodity divisions in performing this service as well as cooperate with other governmental departments and agencies. The committee will also develop a program of research much of which will be focused upon production and distribution of handicraft products.

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Swiss Fair. More than 1100 exhibitors have thus far registered to show their wares at the 18th Swiss Industries Fair, to be held at Basel, Switzerland, from April 7 to 17, according to a news release recently received from the Consul General of Switzerland, located in New York. New sections above the regular twenty industrial groups which will make their appearance for the first time this year are: chemicals and pharmaceuticals, household appliances and articles, heating and sanitary installations, musical instruments, sporting goods and toys, pottery, ceramics and applied arts, jewelry and silverware, office equipment and furniture, graphic arts, textiles, clothing, leather and footwear, patents and inventions, fine mechanics and precision instruments, electrical apparatus, machinery and tools, means of transportation and building materials. Foreign buyers and visitors are being offered extensive facilities and reductions on the fares of all principal European railroads. Information and free admission cards are available at all Swiss Consulates in the United States as well as the New York Office of the Swiss Federal Railroads.

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Protectionism. John Dickinson, Assistant Secretary of Commerce, warned the House Ways and Means Committee that a further decrease in U. S. export trade may be expected if power to negotiate reciprocal agreements is not placed squarely in the hands of the President as recommended in the new reciprocal tariff bill. He urged what he called "a

new protectionism", which he claimed would "really protect, vitalize and restore", asserting that no plan can be called protection "which does not protect the 2,000,000 workers and farmers who depend on export trade". Mr. Dickinson explained that the tariff theory of the Roosevelt Administration did not mean the removal of protective duties for established industries, but rather referred to duties which permitted expansion of industries behind tariff walls at the expense of workers in the export trade.

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Anglo-Soviet Trade Pact. America's bid for Russian markets may be greatly affected by the signing of a commercial agreement between Great Britain and Soviet Russia, under which the latter undertakes ultimately to quadruple its purchases from Britain. Last year Great Britain purchased \$87,290,000 worth of Russian goods while she sold only \$21,300,000 worth of its products to the Soviets. The treaty stipulated that the annual ratios will gradually equalize the figures. Diplomatic privileges were restored to the Russian delegation and Russia was also assured of a proportionate equality with other countries in the British government's credit guarantees.

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NRA NOTES

Federal

Business has had a bad case of the jitters during March. It all started about two months ago when NRA officials began to flounder, evaded important decisions and reversed themselves on others. It was the reversal of the open price policy which had been encouraged for five months until Senators Borah and Nye broke into front page news with their campaign to help the "little fellow" and to insist upon enforcement of the anti-trust laws which they claimed were being ignored by many large combines to the detriment of the small producer and the poor down-trodden consumer. The result was that NRA officials became jumpy and have clamped down on open price provisions in many codes since around February 15, thus taking away the most important reward industry might expect to receive from the NRA—price stabilization. This demonstration of NRA vacillation tended to undermine the confidence of business executives despite an ever mounting business curve.

Pre-Code Authority Meeting. Business men from 48 states gathered for two days in Washington the week before the Code Authority meeting for varying reasons: (1) to enjoy a Washington holiday, (2) to applaud the grand idea contained in the pep talk of General Johnson and company, and (3) to air their NRA troubles and obtain counsel and guidance. Numbers 1 and 2 were reasonably well satisfied but among the third group there were many disappointments because of lack of time to properly present all criticisms or an apparent lack of sympathy for their justification by NRA officials. The truth is that General Johnson stole much of the thunder of those who came to offer constructive criticism by naming in his open speech twelve points which he said the NRA planned to give immediate attention. Most important of these were: more uniform and equitable rule of national price stabilization in cases where necessary to maintain wages at a decent standard against certain results of predatory and cut-throat competition. . . . tightening up on sales below production cost, uniformity of wages in competitive industries, uniform classifications of areas for North-South differentials, reduction in hours and proportionate increase in hourly wages, protection against monopoly for small business, elimination of inconsistent or conflicting provisions among codes, improved

compliance methods, wider use of mechanism for settling labor disputes. Industry's strongest criticism was leveled at reduction of current hours of work, demand for open price continuance or re-instatement in codes, production control, code authority organizations, and multiplicity of codes. Labor asked for more work via downward revision of code hours without reduction in wages; representation on code authority in opposition to company unions. Retailers joined consumers in warning of possible buyers' strike against price increases.

Code Authority Meeting. Unexpected and most important developments of code authority conference were: (1) acceptance of capital goods problem as the basis of real recovery by NRA, labor department and the President; (2) industry won right to participate in decisions of NRA policy. Committees representing American business were capital goods, consumer goods and service industry. The heavy industries committee under the leadership of George H. Houston of the Baldwin Locomotive Works will attempt to blast the impediments which are keeping an estimated 9 million of heavy industry and corollary service line workers in unemployment lines. Mr. Houston's committee has attacked the problem along three fronts—reestablishment of confidence, liberalization of the securities act and of the exchange control bill. Some progress has made its appearance in the last two categories. J. W. Hook, president of Geometric Tool Company in New Haven is a member of Capital Goods Industry committee.

Other important conclusions of the three day conference may be summed up briefly as follows: (1) present codes ranging from 40 hours with exceptions down to 36 and up to 44 may become 36 hours in a number of industries through moral suasion exerted by NRA officials; (2) open price policy permitted under supervision where it is shown that labor, manufacturer and consumer will receive absolute justice; (3) wages expected to go up 10% to offset hourly decrease; (4) further corrective executive orders on 10% cut in hours and 10% raise in minimum wages may be modified if industries affected can prove that it will cause great injustice and hardship; (5) compliance to be handled more aggressively; (6) industries' show of cooperation by sending 4,000 leaders to Washington prompted NRA to shun all mandatory action on the 30-hour week and similar measures.

President Clarifies Section 7(a). Another "hot potato" came to rest on NIRA's plate when President Roosevelt recently interpreted Section 7(a) of the National Industrial Recovery Act to mean that minority groups of employees are entitled to representation of their own in proportion to their size when dealing with their employers and that no specific organization can monopolize such employee representation. This interpretation differs from two others previously made by others identified with the NRA to the effect that this section gives any employee the right to elect to deal individually with his employer if he so chooses, and the other by Senator Wagner of the labor board which interprets the section to mean that the majority shall rule.

State

Big NRA news of the month in Connecticut was large increase in the number of strikes, almost entirely in textile mills. Chief among the companies receiving late in February employee demands for 25% wage increases were: Glen Woolen Mills at Norwich; Assawaga Company, woolen manufacturers, Dayville; Middletown Silk Company, Middletown. A 10% increase was demanded at the

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NEWS FORUM

Continued from page 16

signed by Major F. H. Miles, Jr. and mailed to reserve officers and manufacturers in the Hartford Ordnance District. President E. Kent Hubbard of the Association is a member of the Hartford District Advisory Board and W. A. Dower of the Association's staff is a captain in the Executive Division.

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More Diesels. Diesel engines are becoming more popular. Wilcox-Crittenden, Inc., manufacturers of marine hardware, Middletown, Conn., and a pioneer user of Diesel power, has recently installed a 50 h.p. Wolverine-Diesel connected with an A.C. electric generator to care for their night and holiday demands. The Thomaston Mfg. Co., Thomaston, Conn., is understood to have recently let a contract for the installation of a 50 h.p. Wolverine Diesel engine which will go into service in April. At Winsted, Conn., the Edward F. Hickey's Sons, Inc. installed a 75 h.p. Wolverine-Diesel to furnish all power requirements of the plant. Several other similar installations are being made by the Wolverine Motor Works of Bridgeport, manufacturers of the Wolverine-Diesel engines.

Edward Bloom Company of New Haven and a strike vote was taken, but again rescinded when employees were asked by the management for specific code violations which caused them to make the demand.

Strikes have been staged at the Somersville Mfg. Co., Somersville; Ardmore Corporation, rag assorting plant, at Norwich; Portland Silk Company, Portland; Russell Mfg. Company, manufacturers of cotton fabric products and brake linings, Middletown; Broad Brook Company, manufacturers of woolen fabric, Broad Brook; E. E. Hilliard Co., manufacturers of woolen garments for men and women, Buckland; Ashland Cotton Corporation, manufacturers of cotton fabric, Jewett City. There have also been a number of walk-outs in small dress shops, principally in New Haven, with threats of state-wide strikes in dress shops. Likewise, there have been threats of strikes among certain New Britain factories but none have yet occurred.

Labor disputes settled either through amicable adjustments between workers and managements or through the mediation of Labor Commissioner Joseph M. Tone or Deputy Commissioner William J. Fitzgerald, include the Russell Mfg. Company, Portland Silk Company, Somersville Mfg. Co., and Ardmore Corporation.

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IN WASHINGTON LAST MONTH

(Continued from page 2)

Loans to Industry. Early enactment of legislation to permit one of the following is expected (1) RFC to make five-year loans direct on fixed assets or to commercial banks with a 75% guarantee against loss, (2) twelve credit banks to be established in each of the federal reserve districts to rediscount industrial five year paper on 80% guarantee basis, in certain cases to loan direct to industry, or (3) the new Senator Glass compromise proposal which would make loans available to industry through the present Federal Reserve banks and under the same terms which would be extended by the twelve credit banks, the funds to come out of the federal reserve system.

★ ★ ★

McKeown Reorganization Bill. Chances of passage seem good with amendment to exempt securities of such reorganized corporations from provisions of Securities Act. (Vitamin D)

★ ★ ★

Tugwell Food and Drug Bill. Dormant, but not dead by any means. Enactment unlikely this session. Opponents should be wary of its added strength gained by consumer support when again slated for action. (Vitamin D when tasted by food and drug manufacturers)

★ ★ ★

Municipal Bankruptcy Bill. Awaiting plans by which state governments may assume part of responsibility for municipal rehabilitation. Chances of passage poor this session. (Neutral)

★ ★ ★

Air Mail Antics. A tremendous effort of the administration to save face. President orders post office department to accept new bids on carrying the mail at a time when the bill authorizing the Army to carry the mail for one year lies on his desk unsigned. (Vitamin C)

★ ★ ★

Philippine Bill. Strangely enough, the bill passed both houses and was signed by the President in a rush, when two years ago a similar measure met with overwhelming opposition. Prompt action is believed due to wishes of President and State

Department in order to avoid entanglements in the event of war between Russia and Japan. (Vitamin C to bloc of western farmers, sugar interests)

★ ★ ★

St. Lawrence Waterway. Defeated in Senate by a margin of five votes. (Vitamin C to coastal states)

★ ★ ★

Home Loan Bonds Guarantee. Possibilities very good for government guarantee of HOLC bond issue at 3% to 4% interest rate, with guarantee on interest only. (Vitamin C to home owners and builders)

★ ★ ★

Export-Import Banks. George Peek has been named as head of three banks. Charles E. Stewart, head of New York Engineering firm and who has worked on several Russian projects and who spoke to a New Britain audience last year on "Planned Economy", has been named as vice president. Not much expansion of export trade expected through operation of these banks this year. (Vitamin C to exporters)

★ ★ ★

Vinson Navy Bill. Signed by the President but only gives the U. S. bargaining power at 1935 naval conference because it does not carry an appropriation. It provides for building U. S. Navy up to treaty limits or for approximately 100 ships and 1,000 aeroplanes.

★ ★ ★

Wagner-Lewis Unemployment Bill. This legislation taxing payrolls 5% has recently had the blessing of the President, but its passage seems doubtful this session due to strong employer opposition, and the long and controversial waiting list on the Congressional calendar. (Vitamin D)

★ ★ ★

President's Defeat. Although good by comparison with most presidential legislative feats, President Roosevelt no longer maintains a 100% batting average. He was struck out by the Senate in the St. Lawrence project, by both houses on the independent offices supply bill and overwhelmingly by the House over his veto. Bill contained veterans' relief upping clauses without providing for raising of necessary funds and also the amendment reinstating government workers' pay cuts. Senate also vetoes with three vote majority. (Vitamin D to sound budgetarians)

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SERVICE SECTION

On account of space limitations, the material and used equipment items offered for sale by Association members have not been classified by sizes or usage best adapted. Full information will be given on receipt of inquiry. Listing service free to member concerns.

●● Materials for Sale

COLD rolled steel in coils and in squares, condulets and fittings, remnants of covering materials—velours, velvets, mohair, tapestries, denims, chintzes, and cretonnes, semi-finished and cast-iron; U. S. S. nuts, pulleys, flat and crown face-steel and cast-iron; new shaft hangers, brass wire, brass rods, aluminum tubing, cold drawn steel—mostly hex; miscellaneous lot of material used in the manufacture of molded rubber parts and flooring, knife switches—new and many sizes; carload C. I. drop bases, No. 1025 steel in sizes 4' x 2' and 6' x 2'; lead pipe, lead sheet, acid proof pipe fittings, 124 bars screw stock varying thicknesses and lengths, white absorbent tissue process from cotton, rotary convertor, colors and dyes—large variety, lacquers—several hundred gallons in assorted colors; and soft anneal copper with high silver content in rolls. J. H. Williams wrenches in assorted sizes.

●● Equipment for Sale

ACCUMULATORS, annunciators, baskets, beaders, beamers, bearings, belt stretchers, blowers, boilers, braiders, bronze runners, cans, cards, woolen; car loaders, chain, chairs, chaffer, clocks, time recorders; clock systems, colors and dyes, compressors, condulets, converters, conveyors, cookers, cooking utensils, doublers, draftsman's table, drop hammers, drops, board; drums, drying racks, dyes, engines, evaporators, extractors or percolators, fans, filtering carbon, folders, forming rolls, frames, furnaces, gears, generators, grinders, grindstones, grinding wheels, guiders, headers, lamp shades, lathes, lifters, looms, De Laski circular; machines, automatic; machines, calculating; machines, compressing; machines, dieing; machines, drilling; machines, filing; machines, filling; machines, folding; machines, knitting; machines, mercerizing; machines, milling; machines, pipe-cutting and threading; machines, pleating down; machines, riveting; machines, screw; machines, threading; machines, tongue and groove; machines, washing; mercerizer equipment; millers, mixers, mills, mills rubber; mixing rolls, motors, oil circuits; oven drawers, paints and lacquers; panels, planers, plungers, pointers, presses, profilers, pulley drives, pumps, reamers, receivers, rheostats, safe cabinets, saws, scales, screens, seamers, shapers, shears, spindles, spinning mules, steam tables, steam warmers, stitcher, 192 monitor corner box switches, tables, tanks, toilet equipment, trucks, ash can; tube closers; wire, wire screw and yarders.

●● For Sale or Rent

FOR SALE. Small plant in St. Johns, Quebec, Canada, with two main buildings of 4,680 square feet and 7,178 square feet respectively, and five other smaller buildings with a total floor space of 13,451 square feet. The plant is conveniently situated on a siding of the Canadian National Railway with tracks of the Canadian Pacific on the opposite side of the plant, but with no siding. Real estate holding is 6½ acres. Plant now owned by Connecticut manufacturer. For further details, Address S. E. 70.

FOR RENT: Private office or individual desk space with competent stenographic service is available in room 908, Corner of Park Avenue and 40th Street, New York City. This exceptional opportunity is presented by the Charles Parker Company of Meriden, Conn., because of having removed executive headquarters from its New York City office to Meriden. Address inquiries either to Rental Opportunity, CONNECTICUT INDUSTRY, or to Wm. Winthrop Wright, Vice-President, The Charles Parker Co., 101 Park Ave., New York.

Call or write for many other listings for sale, rent or lease in Connecticut. If our listings do not meet your requirements a thorough search will be made. Address Service Section, *Connecticut Industry*.

FOR RENT—IN DEEP RIVER, CONN.: 45,000 square feet of manufacturing space, sprinklered and heated, with AC or DC Current available. Ideal living and labor conditions and within overnight distance of New York by truck or boat. Write Pratt, Read & Co., Deep River, Conn.

FOR SALE: 1 Burroughs-Moon-Hopkins Billing Machine No. 7202-795298 with stand. 1 Burroughs Bookkeeping Machine No. 6-321849. 1 Lightning Coin Changer No. 10306. All in good condition. Inquire Wilcox, Crittenden & Co., Inc., Middletown.

FOR SALE—LOOMS: 18 Crompton & Knowles 72" Plain, Heavy Duck Looms. 16 Warp Compressor Machine creels and compressors. Creels will hold 2,000 5½" spools. Looms in first class condition, mostly all malleable iron crank shaft and drive shaft gears. Address Calvin K. Glover, the Powdrell Associates, Inc., Goodyear, Conn.

FOR SALE OR LEASE AT GOODYEAR, CONN. Seven textile mills, cotton warehouse and model village, including hotel, church, parsonage, superintendent's house, recreation hall, athletic field, post office, garage, blacksmith and pipe shop, ample storage facilities. Land area 345 acres, irregular dimensions. Dam for water power recently built. Electric elevator, steam heating, automatic sprinklers; 45% water power, 20% steam and the remainder from outside electric sources. Total floor area of mills and accessory buildings 286,976 sq. ft. Mills may be purchased or leased in the whole or part at attractive prices. Present price for mills and village could be amortized within a few years through income from village. For more complete details and photographs of mills write Calvin K. Glover, the Powdrell Associates, Inc., Goodyear, Conn. Photograph specification sheet also available by writing Service Section, CONNECTICUT INDUSTRY.

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